

Comments on:

Bellucci et al. “Corrective taxation and the fiscal cost of banking crises: bank levies in Europe”

Campos et al. “Sovereign exposures of Portuguese banking system: determinants and dynamics”

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

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**Doris Prammer
Oesterreichische Nationalbank**

The views expressed should not be attributed to the Oesterreichische Nationalbank.

For the government, it's all about getting incentives right...

Bellucci et al. and Campos et al. analyze how the government sets incentives to stir banks' behavior by bank levies and moral suasion respectively.

Dallari et al. investigate how tax deductibility of interest paid on debt incentivises firms to leverage.



All three papers use large sets of individual bank level data (Bellucci et al. and Campos et al.) and firm level data (Dallari et al.) respectively for their panel estimation techniques.

Bellucci et al. “Corrective taxation and the fiscal cost of banking crises: bank levies in Europe”

1. **Estimate the reaction of banks to bank levies (mostly imposed on unsecured liabilities) along three dimensions:**
 1. **Equity ratios: +**
 2. **Risk weighted asset densities: +**
 3. **Interbank deposits over total liabilities: -**

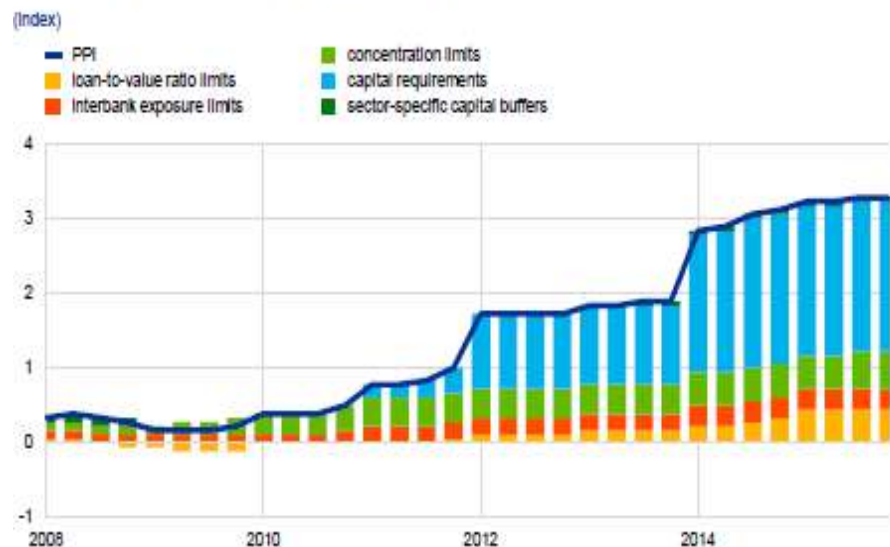
Bank levy makes portfolio risk more attractive than funding risk, for levy dummy and marginal levy rate.

2. **Using the point estimates Bellucci et al. calculate counterfactual balance sheets and simulate potential losses in case of severe crisis using actual and counterfactual balance sheet data. Overall losses are higher with levies due to increased riskiness on the asset side.**

Bellucci et al. “Corrective taxation and the fiscal cost of banking crises: bank levies in Europe”

Prudential policies have tightened significantly in the euro area since the crisis

The PPI and its components for the euro area



Source: ECB 2017

Bank levy only one tool among many to influence bank behaviour; prudential policies (regulatory responses) also play a role: they change over time and differ across countries and banks.

→ **Prudential Policy Index (ECB (2017), Cerutti et al. (2016))**

Bellucci et al. “Corrective taxation and the fiscal cost of banking crises: bank levies in Europe”

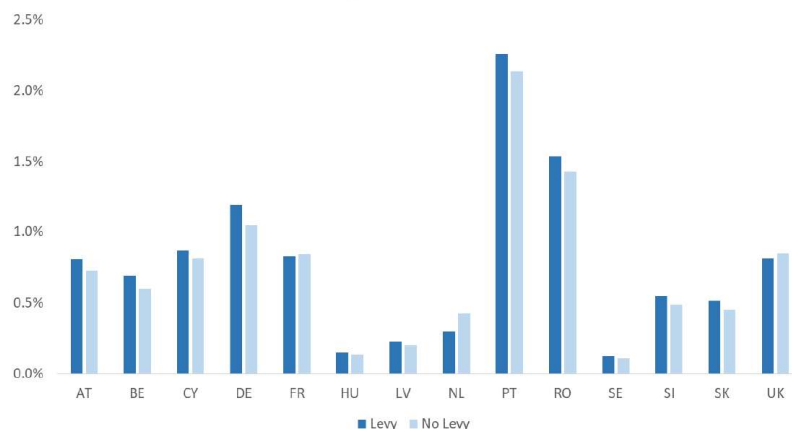
Robustness checks:

- **Dependent variables are stocks, which might be persistent → include lagged dependent variables → estimate via IV or GMM**
- **Identification / Weighting:** Underlying assumption that the portfolio composition of levied banks and non-levied banks would have evolved in the same way.
 - **Devereux (2017) using a matching and weighting scheme shows: estimated effect of the bank levy in the “weighted estimation” drops considerably.**
- **Marginal levy rates often depend on bank characteristics (size: AT, DE, NL, UK or debt-maturity: NL, UK): treat marginal levy rates as endogenous variable → IV**

Bellucci et al. “Corrective taxation and the fiscal cost of banking crises: bank levies in Europe”

5.1 No contagion

Figure 8. Losses



Note: losses expressed as a percentage of total assets.

Source: Bellucci et al. 2018

Slightly higher losses in case of levies using point estimates:

Are the simulated losses significantly different?

→ Reflect the uncertainty of the point estimates also in the simulations (confidence intervals).

Campos et al. “Sovereign exposures of Portuguese banking system: determinants and dynamics”

Investigate motivation for (domestic) banks to hold domestic sovereign debt:

- **Moral suasion:** in times of fiscal stress governments prompt domestic banks to absorb additional amounts of domestic sovereign debt ✓
- **Liquidity channel:** banks invest in sovereign debt securities to store liquidity and to be used as a collateral ✓
- **Carry trade:** banks (in particular less capitalized banks) buy sovereign bonds by fiscally stressed countries to gain from higher profits (betting on higher-risk-higher-return assets) ✗

Campos et al. „Sovereign exposures in the Portuguese banking system: determinants and dynamics“

1. Moral suasion

$$\frac{flow_{i,t}}{stock_{i,t-1}} = \beta_1 domestic_{it} * FundingNeed_t * \Delta yield_t + \dots$$

Interpretation: $\beta_1=0.2$ is interpreted as: „if 10-year sovereign yields rise by 50 bp [...], domestic banks are estimated to increase their holdings to an extent that is 10 per cent higher than that of comparable foreign banks “ (p.16)

But β_1 measures the increase in holding of domestic banks relative to all banks – assuming that time FE only capture $FundingNeed_t * \Delta yield_t$ (likely?)

Campos et al. „Sovereign exposures in the Portuguese banking system: determinants and dynamics“

2. Liquidity channel

$$\frac{flow_{i,t}}{stock_{i,t-1}} = -1.4 ExcLiq1_AL + 13.4 ExcLiq1_AL * Tier1Ratio + \dots$$

Interpretation: „Hence, for Tier 1 ratios above around 10%, the coefficients for this interaction outweigh the coefficient 1.4” (p.18)

- But:**
- 1) Both coefficients are only significant at 10% level; maybe they are jointly not significant → F-test
 - 2) Tier 1 is not included

3. Carry trade channel:

$$\frac{flow_{i,t}}{stock_{i,t-1}} = \beta_1 * Tier1Ratio + \dots$$

Campos et al. “Sovereign exposures of Portuguese banking system: determinants and dynamics”

Three separate regressions, with same dependent variable $\frac{flow_{i,t}}{stock_{i,t-1}}$ but different explanatory variables, which are significant:

- **Omitted variable bias?** : correlation with dependent variable: yes; independent variable: likely
- **Why not: 1 nested specification?**
 - Include explanatory variables for all three channels and see if they still have explanatory power.
 - Only interpret coefficients of nested specifications as coefficients in separate equations might be biased.

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

- **Estimate the role of taxation on corporate debt policy:**

$$D_{i,t,c} = \alpha D_{i,t-1,c} + \beta_1 X_{i,t-1,c} + \beta_2 X_{i,t-1,c} * \tau_{c,t} + FE_{c,s,t} + \varepsilon_{i,t,c}$$

- **Extend the baseline by „strength of sovereign“ (long term bond yields, government debt) and „quality of institutions“ (among which GDP/capita).**
- **Finding: Debt bias is significant driver of leverage. Strength of effect depends on firm size, revenue and its volatility, cash flow,...(short: on interaction variables $X_{i,t-1,c}$).**

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

Questions on choice of variables:

- **Not only is taxation of debt important for the choice of a firm’s debt policy, but the tax advantage of debt financing over equity.**
 - **Miller-tax-term (measuring the tax preferential treatment)**
 - **PIT**
- **Meta-analysis (de Mooij, 2011):** „[...] regressions ignoring the role of PIT may overestimate the importance of debt bias.” (p.20)

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

Questions on choice of variables:

- Why no macroeconomic control variables (except GDP/capita)?

$D_{i,t,c}$ (defined as debt divided by total assets/equity/earnings) likely fluctuates with cycle, and cyclical variation might effect firms, sectors differently

- Why not include $\tau_{c,t}$ on its own, but just as an interaction term?

→ Maybe try specification without time FE, but macroeconomic control variables and $\tau_{c,t}$ on its own?

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

Questions on choice of variables:

- **Why use real GDP/capita as proxy for quality of institutions in a sample of advanced economies?**
 - **Institutions in Luxembourg 2.5 times stronger than in Germany?**
 - **Quality of institutions have not improved in Greece, Portugal since the economic adjustment programme?**

	Real GDP/capita				
	2000	2008	2009	2012	2016
<i>in thousand EUR</i>					
Germany	29,0	32,5	30,8	33,4	34,6
Greece	17,6	22,6	21,5	17,2	17,1
Italy	27,3	28,2	26,5	26,0	25,9
Luxembourg	70,5	81,9	76,9	77,2	81,7
Austria	31,7	36,3	34,8	36,4	36,3
Portugal	16,2	17,2	16,7	16,1	16,9

Source: European Commission

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

Question on estimation technique:

- **How to deal with the fact that using pooled OLS with lagged dependent variables and fixed effects leads to biased and inconsistent estimators?**
 - **In particular as Dallari et al. state that in difference and system GMM models, „[...] the moment conditions proved cumbersome.“ (p.15).**
- **Maybe paper by Ferstl and Sigmund (2018) helps (including R-code)?**

Dallari et al. “Pouring oil on fire: interest deductibility and corporate debt”

Question on interpretation of estimated coefficients:

- Why did you choose to interpret the coefficients for $X_{i,t-1,c} * \tau_{c,t}$ for each interaction term in individual regressions?
 - not including them all in a single regression → omitted variables
→ biased estimators
- Better interpret the coefficients only in the full specification
- A meaningful quantification of the marginal effects of CIT on leverage depends upon the problem considered:
 - Due to interaction terms marginal effects of CIT are not constant.



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EUROSYSTEM

Thanks

A photograph of the Oesterreichische Nationalbank building facade, featuring a large sign that reads 'OESTERREICHISCHE NATIONALBANK'. The building is highly ornate with classical architectural details like columns and sculptures. The image is dimly lit, with a bright light source on the right side creating a lens flare effect.

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